

2011 GROUNDWATER SAMPLING AND ANALYSIS REPORT

**SOUTH CAVALCADE SUPERFUND SITE
HOUSTON, TEXAS**

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1.0 INTRODUCTION

This Groundwater Sampling and Analysis Report for the South Cavalcade Superfund Site (Site) has been prepared by Key Environmental, Inc. (KEY) on behalf of Beazer East, Inc. (Beazer). The Site is located in Houston, Texas as is depicted on Figure 1-1. This report has been prepared to document the results of groundwater monitoring activities completed as a result of discussions during a March 8, 2011 meeting between representatives of Beazer, the U.S. Environmental Protection Agency (EPA), and the Texas Commission on Environmental Quality (TCEQ). The groundwater monitoring was completed in March of 2011 to determine if Site conditions had changed appreciably since the last comprehensive groundwater monitoring event completed in 2005. Specific issues of interest for the purposes of the sampling and analysis program were 1) to provide continued evidence that the “plumes” are not expanding, and 2) to provide additional evidence of natural attenuation via analysis of the groundwater samples for natural attenuation indicator parameters. The remainder of this report summarizes the scope and results of the sampling and analysis program and summarizes the data in tabular and graphical form.

2.0 SCOPE OF THE INVESTIGATION

The scope of the monitoring program was developed as a result of discussions with the EPA and TCEQ during the March 8, 2011 meeting and consisted of a round of Site-wide water level and Dense Non-Aqueous Phase Liquid (DNAPL) measurements and the collection of groundwater samples from 17 Site monitoring wells. Water level and DNAPL measurements were completed for a total of 64 wells (Figure 2-1). Groundwater samples were obtained from wells screened in two distinct water-bearing zones. Twelve wells screened in the uppermost water bearing zone (i.e., the Shallow Zone) and five wells screened in an immediately underlying deeper zone (i.e., the Intermediate Zone) were sampled. Wells to be sampled were identified based on their locations relative to previously-identified boundaries of source areas located in the northern and southern halves of the property. The following wells were included in the sampling and analysis program:

Shallow Zone		Intermediate Zone	
North	South	North	South
MW-01	MW-07	MW-10	P-03R
MW-03	MW-26	P-01	P-05
MW-05	PZS-30	P-04	
OW-08	PZS-40		
PZN-20	PZS-60		
PZN-30			

Groundwater samples from the 17 wells were analyzed for two indicator constituents of interest – benzene and naphthalene. These constituents are the most soluble, least sorptive, and hence most mobile, constituents historically detected in Site groundwater samples. In addition, samples from each of the 17 locations were also analyzed for various indicator parameters to support evaluation of monitored natural attenuation. Field analyses for specific conductance, dissolved oxygen, oxidation-reduction potential, pH, and turbidity were completed. Laboratory analyses for dissolved iron and manganese, nitrate, sulfate, and total alkalinity were completed.

3.0 RESULTS

The results of the groundwater monitoring program are summarized in Tables 3-1 through 3-3. Table 3-1 summarizes the water level and DNAPL measurement data. Table 3-2 summarizes the concentrations of the indicator constituents of interest (i.e., naphthalene and benzene) in the 17 groundwater samples. Table 3-3 presents the results of the field measurement effort and laboratory analyses for natural attenuation indicators. The results of the monitoring program are summarized in these tables and are briefly discussed in the remainder of this section.

Water Levels and DNAPL Measurement - Water levels as determined via the most recent sampling effort are relatively consistent with those observed historically; hence groundwater flow directions are consistent with historical observations for the shallow and intermediate zones. Although traces of DNAPL were identified in various wells, as is shown in Table 3-1, only one of the wells exhibited the presence of any measurable quantity of DNAPL. The well of interest PZS-20 contained an apparent DNAPL thickness of 3.68 feet. This thickness of DNAPL in a 2-inch well corresponds to approximately 0.6 gallons of DNAPL. Historically, this well had as much as 13 feet of DNAPL (i.e., in 1996). Note that many of the Site recovery wells were

included in the monitoring program as were multiple monitoring wells sited in the north and south source areas. No DNAPL was observed to have accumulated (beyond traces) in any of these wells which is consistent with prior observations that very little recoverable DNAPL exists at the Site.

Benzene and Naphthalene Concentrations – The analytical results for benzene and naphthalene are summarized in Table 3-2 and are depicted graphically on Figures 3-1 (shallow zone) and 3-2 (intermediate zone). With the exception of samples from two wells located close to the source areas (i.e., PZN-30 in the north source area and PZS-30 in the south source area) benzene and naphthalene concentrations in groundwater samples were observed to have declined or remained stable from 2005 to 2011. Benzene and naphthalene concentration in samples from wells located downgradient of the north source area are considered stable. Naphthalene concentrations in samples from MW-01 have declined by more than an order of magnitude and benzene was not detected in the most recent round of sampling and analysis. Neither benzene nor naphthalene has ever been detected in samples from offsite well MW-05 located downgradient of the north source area. In the south source area, naphthalene and benzene concentrations have generally declined in samples from downgradient wells. For example, while naphthalene was detected in a sample from MW-26 at a concentration of 4,300 ug/L in 2000, the most recent sample from this well (i.e., 2011) did not contain naphthalene at a detection limit of 0.14 ug/L.

For comparative purposes, isoconcentration contour maps have been prepared for benzene and naphthalene in the shallow and intermediate zones for three separate time periods. Figures 3-3 through 3-5 are shallow zone benzene isoconcentration contours for pre-1987, 2005, and 2011. As is shown on these figures, with the exception of some slight fluctuations proximate to the source areas, the benzene plume in both the north and south areas has decreased in size and concentration over time. Figures 3-6 through 3-8 are shallow zone naphthalene isoconcentration contours for pre-1987, 2005, and 2011. As is shown on these figures, with the exception of some slight fluctuations proximate to the source areas, the naphthalene plume in both the north and south areas has decreased in size and concentration over time. The most recent result for naphthalene for the sample from this well is more consistent with the overall distribution of naphthalene proximate to the north source area. Analytical results for the 5 intermediate zone

well samples are depicted on Figure 3-2 and demonstrate a general downward trend for both benzene and naphthalene for all of the wells sampled. In conclusion, concentrations are generally declining across the Site in both the shallow and intermediate zones which is consistent with expectations regarding natural attenuation. Although some slight fluctuations are expected, particularly in response to short-term meteorological conditions which can affect water table elevations and dilution potential, a continuing downward trend is expected Site wide.

Natural Attenuation Parameter Trends – The laboratory natural attenuation parameter and field measurement results are summarized in Table 3-3. As is shown in Table 3-3, the results are generally consistent with historical observations regarding natural attenuation at the Site. Figure 3-9 presents plots of the natural attenuation indicator parameter data to depict the spatial trends across the Site. Dissolved oxygen concentrations are depleted in all of the wells sampled which is considered direct evidence of either natural or Site-related aerobic respiration. Oxidation-reduction potentials are generally negative indicating that anaerobic conditions exist in many areas and hence aerobic degradation is likely a significant attenuation mechanism for the Site. Concentrations of dissolved iron and manganese are elevated proximate to source areas which is further evidence of anaerobic degradation pathways. Sulfate concentrations are also reduced proximate to source areas and this is indicative of degradation by sulfate reducing bacteria. Previous simulation of degradation potential at the site demonstrated that sulfate reducing bacteria likely comprise the majority of the assimilative capacity of the site and the results of the most recent groundwater sampling event are consistent with this premise.

4.0 CONCLUSIONS

The results of the most recent (i.e., 2011) groundwater monitoring program are consistent with historical observations as well as expectations. The following conclusions have been reached based on consideration of the most recent monitoring results:

- Groundwater flow conditions are consistent with historical observations.
Groundwater flow is generally to the west and west-southwest at the Site;

- With the exception of one piezometer (PZS-20), no DNAPL was observed to have accumulated (beyond traces) in any of the wells which is consistent with prior observations that very little recoverable DNAPL exists at the Site.
- Concentrations of constituents of interest are generally declining; the north and south plumes appear to be stable or decreasing in size and concentration;
- Natural attenuation parameter monitoring data are consistent with historical observations and demonstrate that natural attenuation of constituents of interest is occurring at the Site.

TABLES

TABLE 3-1
WATER LEVEL AND DNAPL THICKNESS MEASUREMENTS
SOUTH CAVALCADE SUPERFUND SITE
HOUSTON, TEXAS

Piezometer or Monitoring Well	Zone	Date	Time	Depth to Water (ft-toc)	Total Well Depth (ft-toc)	Apparent DNAPL Thickness (feet)	Measuring Point Elevation (ft-msl)	Potentiom. Surface Elevation (ft-msl)
MW-01	Shallow	03/28/11	1011	9.59	16.17	0	54.11	44.52
MW-02	Shallow	03/28/11	1050	9.29	23.80	0	53.79	44.50
MW-03	Shallow	03/28/11	0926	7.43	27.19	0	52.04	44.61
MW-04	Shallow	03/29/11	1330	4.74	24.40	0	49.71	44.97
MW-05	Shallow	03/28/11	0748	10.32	23.94	0	53.55	43.23
MW-06	Shallow	03/28/11	NA	Not Found	NA	NA	48.83	NA
MW-07	Shallow	03/28/11	0910	8.03	30.45	0	52.89	44.86
MW-08	Shallow	03/28/11	NA	Not Found	NA	NA	48.79	NA
MW-09	Shallow	03/28/11	NA	Not Found	NA	NA	46.34	NA
MW-24	Shallow	03/28/11	NA	Not Found	NA	NA	51.99	NA
MW-26	Shallow	03/28/11	1001	6.45	18.49	0	48.35	41.90
OW-01	Shallow	03/28/11	1110	5.14	21.55	0	52.37	47.23
OW-02	Shallow	03/28/11	1113	8.91	22.28	Trace	53.89	44.98
OW-07	Shallow	03/28/11	1130	9.81	19.30	0	54.64	44.83
OW-08	Shallow	03/28/11	0815	8.94	16.60	0	50.99	42.05
OW-09	Shallow	03/28/11	1139	7.42	16.87	0	52.56	45.14
OW-10	Shallow	03/28/11	1201	9.52	24.45	Trace	50.94	41.42
OW-11	Shallow	03/28/11	1220	5.40	21.05	Trace	51.75	46.35
OW-13	Shallow	03/29/11	1200	NA	NA	NA	51.63	NA
OW-14	Shallow	03/28/11	NA	Not Found	NA	NA	51.51	NA
OW-17	Shallow	03/29/11	1346	7.31	27.85	0	NM	NA
P-02N	Shallow	03/29/11	NA	Not Found	NA	NA	NM	NA
PTZ-01	Shallow	03/29/11	0849	9.51	19.93	0	NV	NA
PTZ-02	Shallow	03/29/11	0826	8.90	16.40	0	NV	NA
PTZ-02A	Shallow	03/29/11	0831	Dry	7.76	0	NV	NA
PZN-10	Shallow	03/28/11	1246	6.77	20.10	0	51.03	44.26
PZN-11	Shallow	03/28/11	1259	6.81	20.10	0	51.11	44.30
PZN-20	Shallow	03/28/11	1026	6.43	20.01	0	51.28	44.85
PZN-21	Shallow	03/28/11	1308	5.80	12.50	0	50.87	45.07
PZN-30	Shallow	03/28/11	0819	6.65	19.64	0	50.79	44.14
PZN-31	Shallow	03/28/11	1321	6.55	20.12	0	50.75	44.20
PZN-40	Shallow	03/28/11	1346	5.85	20.11	0	50.91	45.06
PZN-41	Shallow	03/28/11	1400	5.54	19.26	0	50.75	45.21
PZN-50	Shallow	03/28/11	1042	6.38	20.15	0	50.85	44.47
PZN-51	Shallow	03/28/11	1410	6.52	20.15	0	52.76	46.24
PZS-10	Shallow	03/28/11	1426	7.55	14.65	0	48.09	40.54
PZS-11	Shallow	03/28/11	1439	7.42	20.19	0	48.28	40.86
PZS-20	Shallow	03/29/11	1430	5.60	22.75	3.68	48.64	43.04
PZS-21	Shallow	03/28/11	1511	5.98	21.25	0	48.57	42.59
PZS-30	Shallow	03/28/11	1019	5.48	20.11	0	49.39	43.91
PZS-31	Shallow	03/28/11	1524	5.61	20.11	0	49.27	43.66

TABLE 3-1
WATER LEVEL AND DNAPL THICKNESS MEASUREMENTS
SOUTH CAVALCADE SUPERFUND SITE
HOUSTON, TEXAS

Piezometer or Monitoring Well	Zone	Date	Time	Depth to Water (ft-toc)	Total Well Depth (ft-toc)	Apparent DNAPL Thickness (feet)	Measuring Point Elevation (ft-msl)	Potentiom. Surface Elevation (ft-msl)
PZS-40	Shallow	03/28/11	0932	5.20	19.71	0	49.64	44.44
PZS-41	Shallow	03/28/11	1541	5.23	20.00	0	49.55	44.32
PZS-50	Shallow	03/29/11	1502	5.46	21.80	0	49.85	44.39
PZS-51	Shallow	03/29/11	1000	4.94	21.90	Trace	49.71	44.77
PZS-60	Shallow	03/28/11	0851	5.23	18.40	0	51.64	46.41
PZS-61	Shallow	03/28/11	1556	6.00	20.08	0	51.57	45.57
RWN-1	Shallow	03/29/11	1308	4.68	15.10	0	49.03	44.35
RWN-2	Shallow	03/29/11	1315	4.61	18.20	0	49.07	44.46
RWN-3	Shallow	03/29/11	0900	4.71	18.72	0	48.54	43.83
RWN-4	Shallow	03/29/11	1558	4.42	23.20	Trace	49.51	45.09
RWN-5	Shallow	03/29/11	0907	4.30	18.46	0	48.95	44.65
RWS-1	Shallow	03/29/11	1700	5.82	24.02	Trace	46.47	40.65
RWS-2	Shallow	03/29/11	1650	3.40	24.92	Trace	46.69	43.29
RWS-3	Shallow	03/29/11	1218	3.63	18.55	0	47.52	43.89
RWS-4	Shallow	03/29/11	0811	3.31	18.73	0	47.86	44.55
RWS-5	Shallow	03/29/11	1638	4.72	27.00	0	48.27	43.55
RWS-6	Shallow	03/29/11	0740	4.15	18.60	0	49.76	45.61
ITW-02	Inter.	03/29/11	1515	NM	NA	NA	NM	NA
MW-10	Inter.	03/28/11	0940	19.54	56.27	0	53.67	34.13
MW-11	Inter.	03/29/11	1038	Damaged	NA	NA	52.49	NA
MW-12R	Inter.	03/29/11	1506	19.00	55.22	0	53.87	34.87
MW-14R	Inter.	03/28/11	1600	14.06	46.26	0	48.97	34.91
MW-16	Inter.	03/29/11	NA	Not Found	NA	NA	46.20	NA
MW-23	Inter.	03/29/11	NA	Not Found	NA	NA	49.03	NA
OW-15	Inter.	03/28/11	1621	19.11	53.32	0	NM	NA
OW-16	Inter.	03/28/11	1630	19.24	53.90	0	NM	NA
OW-19	Inter.	03/29/11	1211	14.15	53.25	Trace	NM	NA
OW-20	Inter.	03/29/11	NA	Not Found	NA	NA	NM	NA
P-01	Inter.	03/28/11	0828	18.08	48.68	0	52.96	34.88
P-02R	Inter.	03/28/11	1640	14.96	48.80	0	49.05	34.09
P-03R	Inter.	03/28/11	0948	24.56	54.73	0	50.14	25.58
P-04	Inter.	08/28/11	0837	18.48	53.32	0	51.91	33.43
P-05	Inter.	03/28/11	0955	8.58	50.43	0	52.19	43.61

Notes:

NA - Not Applicable - Well/piezometer could not be found or measurements could not be obtained.

Not Found - Well could not be located in the field.

NV - Not Available - Wells were surveyed historically but survey information could not be found.

NM - Not Measured - Survey information not obtained for this well or piezometer.

TABLE 3-2
2011 AND HISTORICAL GROUNDWATER ANALYTICAL RESULTS
INDICATOR CONSTITUENTS OF INTEREST
SOUTH CAVALCADE SUPERFUND SITE
HOUSTON, TEXAS

Well	Date	Concentration (ug/L)	
		Benzene	Naphthalene
North Source Area - Shallow Zone			
MW-01	Dec-86	2 J	3100
	Dec-87	15	3400
	Nov-93	5.7	1600
	Apr-00	4.1	340
	Sep-05	<13	2100
	Mar-11	<0.99	140
	Duplicate	<0.99	160
MW-03	Dec-86	<5	<10
	Feb-87	<5	<10
	Dec-99	<1	20
	Mar-11	<0.99	<0.13
MW-05	Dec-86	<5	<10
	Sep-05	<0.13	<0.26
	Mar-11	<0.99	<0.15
PZN-20	Sep-05	<25	3900
	Mar-11	4.4 J	4000
	Duplicate	5.3	3400
PZN-30	Sep-05	<0.13	<0.26
	Mar-11	<0.99	210
PZN-50	Sep-05	<50	8600
	Mar-11	4.9 J	6300
OW-08	Dec-86	<5	1 J
	Feb-87	---	<20
	Sep-05	<0.13	<0.26
	Mar-11	<0.99	<0.13
North Source Area - Intermediate Zone			
P-01	Dec-86	<5	<10
	Feb-87	---	<20
	Sep-05	<0.13	<0.26
	Mar-11	<0.99	<0.14
P-04	Dec-86	<5	<10
	Feb-87	---	<20
	Sep-05	<0.13	2.3
	Mar-11	<0.99	<0.15
MW-10	Dec-86	8 J	3400
	Feb-87	<5	690
	Sep-05	<1.3	150
	Mar-11	1.4 J	110
	Duplicate	1.6 J	100

Well	Date	Concentration (ug/L)	
		Benzene	Naphthalene
South Source Area - Shallow Zone			
MW-07	Dec-86	<5000	<10
	Feb-87	---	<50
	Dec-99	<0.1	0.72 J
	Mar-11	<0.99	<0.14
MW-26	Apr-00	<0.1	4300D
	Sep-05	<13	1700
	Mar-11	<0.99	<0.14
	Duplicate	<0.99	<0.14
PZS-30	Sep-05	<25	3400
	Mar-11	130	6200
	Duplicate	130	6600
PZS-40	Sep-05	<0.63	89
	Mar-11	<0.99	<0.14
PZS-60	Sep-05	1.7	11
	Mar-11	<0.99	<0.14
South Source Area - Intermediate Zone			
P-03R	Dec-86	800	140000
	Feb-87	---	15000
	Apr-00	2.9	<0.36
	Sep-05	<1.3	230
	Mar-11	<0.99	1400
	Duplicate	<0.99	1500
P-05	Dec-86	<5	2400
	Feb-87	---	<20
	Sep-05	3.1	320
	Mar-11	<0.99	<0.13

Notes:

- < Not detected at the reporting limit shown.
- J Result is an estimate. Below reporting limit.
- D Result is for diluted sample run.
- Sample not analyzed for this parameter.
- Pre-2005 nondetects provided to reporting limits.
- 2005/2011 nondetects provided to detection limits.

TABLE 3-3
2011 GROUNDWATER ANALYTICAL RESULTS
LABORATORY AND FIELD NATURAL ATTENUATION PARAMETERS
SOUTH CAVALCADE SUPERFUND SITE
HOUSTON, TEXAS

Constituent	Units	North Source Area										
		Shallow Zone								Intermediate Zone		
		MW-01	MW-03	MW-05	PZN-20		PZN-30	PZN-50	OW-08	P-01	P-04	MW-10
		03/30/11	03/30/11	03/29/11	03/31/11	Duplicate	03/29/11	03/31/11	03/29/11	03/29/11	03/31/11	03/31/11
Laboratory Natural Attenuation Data												
Iron, dissolved	ug/L	3260	260	<11.9	6930	6870	7050	10600	<11.9	<11.9	<109	2480
Manganese, dissolved	ug/L	2110	213	13.7 J	1770	1760	264	282	0.97 J	1.8 J	54.8	435
Nitrate as N	mg/L	<0.014	<0.014	0.58	<0.014	<0.014	<0.014	<0.014	0.26	0.93	<0.014	<0.014
Sulfate	mg/L	12.6	29.9	79.1	1.2	1.3	2.3	1.3	49.5	12.1	24.1	0.49 J
Total Alkalinity	mg/L	437	323	355	401	409	365	447	298	156	338	423
Field Natural Attenuation Data												
pH	SU	6.58	6.63	6.76	6.71	--	6.70	6.99	6.72	8.15	7.80	6.69
Specific Conductance	mS/cm	0.892	0.721	1.019	0.788	--	0.786	0.956	0.708	0.364	0.914	1.442
ORP	mv	-85.6	-40.1	17.8	-87.2	--	-76.1	-130.8	-16.3	-76.4	-19.3	-74.9
DO	mg/L	0.91	0.97	0.64	0.73	--	1.24	0.73	0.89	0.83	0.75	0.82
Turbidity	NTU	3.43	5.15	8.94	3.58	--	6.55	9.50	5.58	4.50	10.31	4.70

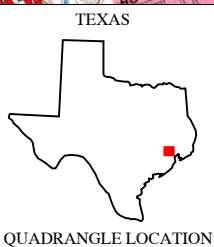
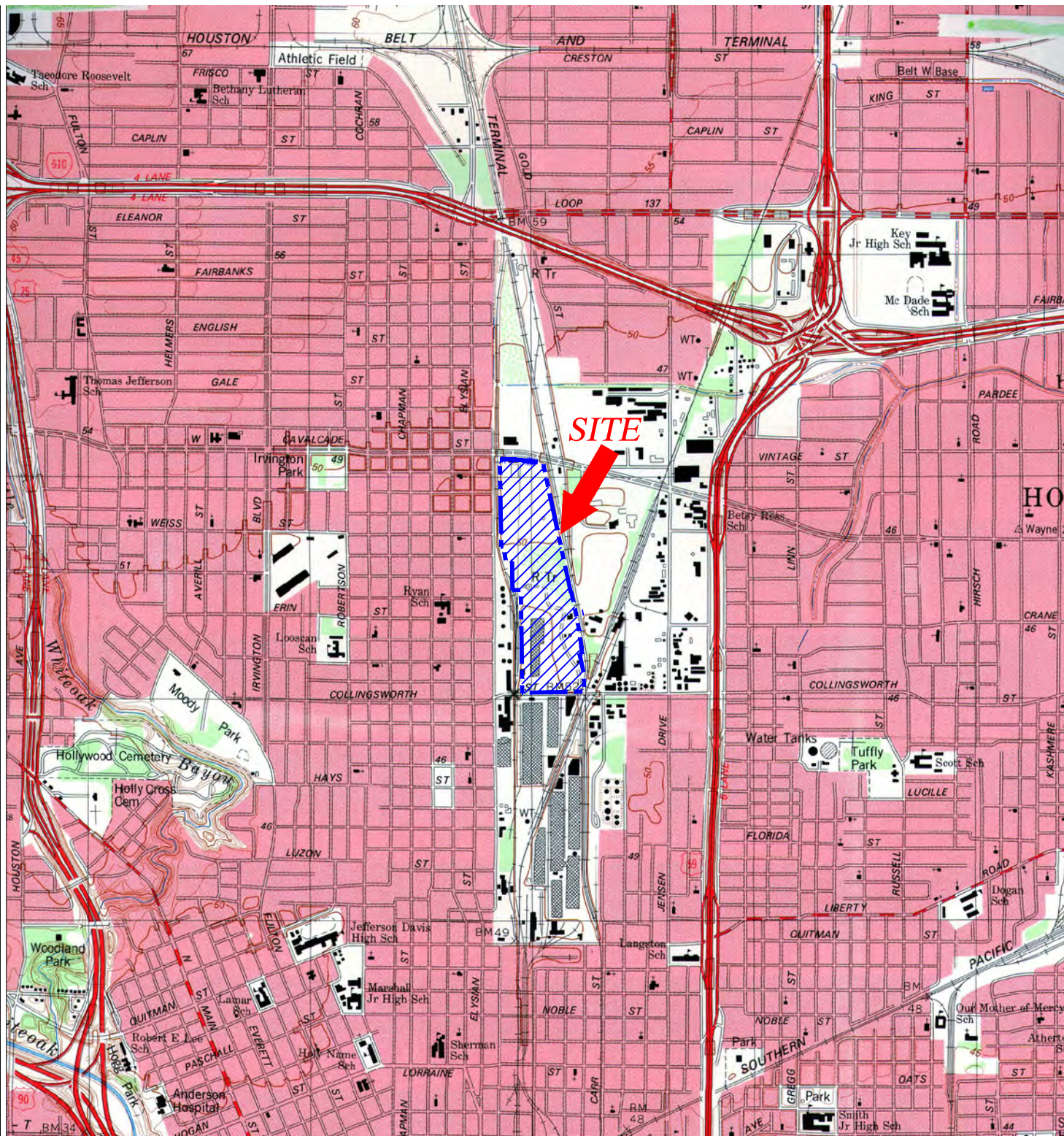
Constituent	Units	South Source Area						
		Shallow Zone					Intermediate Zone	
		MW-07	MW-26	PZS-30	PZS-40	PZS-60	P-03R	P-05
		03/29/11	03/30/11	03/30/11	03/30/11	03/30/11	03/31/11	03/30/11
Laboratory Natural Attenuation Data								
Iron, dissolved	ug/L	704	49.5 J	3800	72.6 J	7010	<11.9	39.6 J
Manganese, dissolved	ug/L	2640	94.7	205	277	986	<0.68	4.1 J
Nitrate as N	mg/L	<0.014	<0.014	<0.014	<0.014	<0.014	<0.014	1.1
Sulfate	mg/L	31.6	52.1	6.3	12.4	6.4	1	4.3
Total Alkalinity	mg/L	398	454	448	180	598	--	119
Field Natural Attenuation Data								
pH	SU	6.78	6.61	7.37	8.35	7.28	7.83	7.46
Specific Conductance	mS/cm	0.817	1.083	1.056	0.332	1.126	1.021	0.306
ORP	mv	-40.1	-20.1	-199.3	-127.4	-146.2	-96.1	-64.5
DO	mg/L	0.96	0.76	0.48	0.50	0.88	0.62	0.52
Turbidity	NTU	2.95	3.82	5.21	5.90	7.95	7.01	4.06

Notes:

- < Not detected at the reporting limit shown.
- J Result is an estimate. Below reporting limit.
- Sample not analyzed for this parameter.

FIGURES

y:\south cavalcade\11-249\groundwater summary report\figure 1-1.dwg Last Saved By: Somer 6/3/2011 9:20 AM Plotted By: Shelly Comer 11/9/2011 10:19 AM Scale: 1:1



QUADRANGLE LOCATION

REFERENCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE
OF SETTEGAST, TEXAS - 1982

ISSUE DATE:

KEY ENVIRONMENTAL, INC.
200 THIRD AVENUE
CARNEGIE, PA 15106

BEAZER EAST, INC
PITTSBURGH, PENNSYLVANIA

DRWN: DAE
CHKD: RMB
APPD: JSZ
SCALE: 1" = 2000'

DATE: 2/28/07
DATE: 2/28/07
DATE: 2/28/07

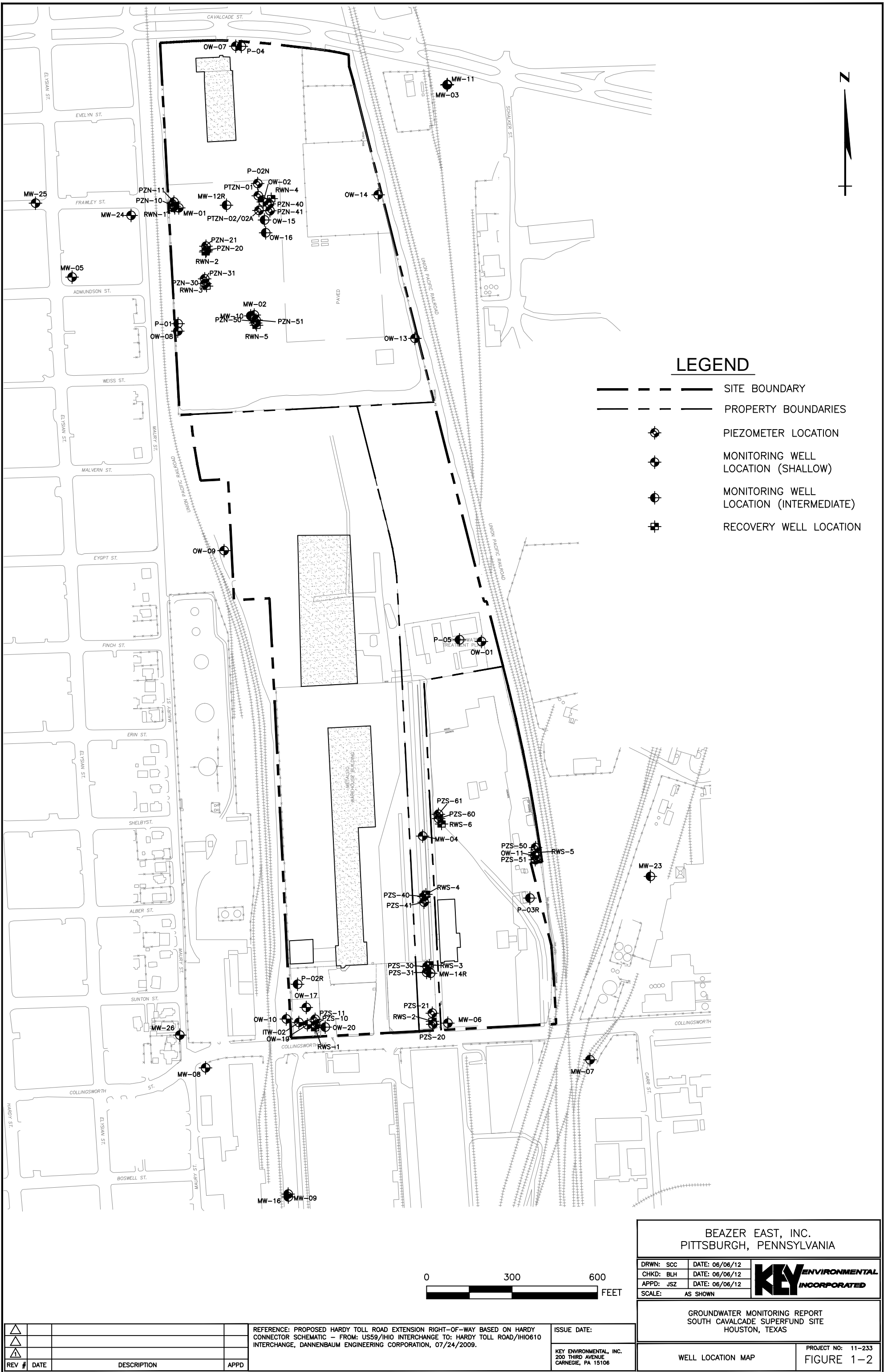
KEY ENVIRONMENTAL
INCORPORATED

GROUNDWATER MONITORING REPORT
SOUTH CAVALCADE SUPERFUND SITE
HOUSTON, TEXAS

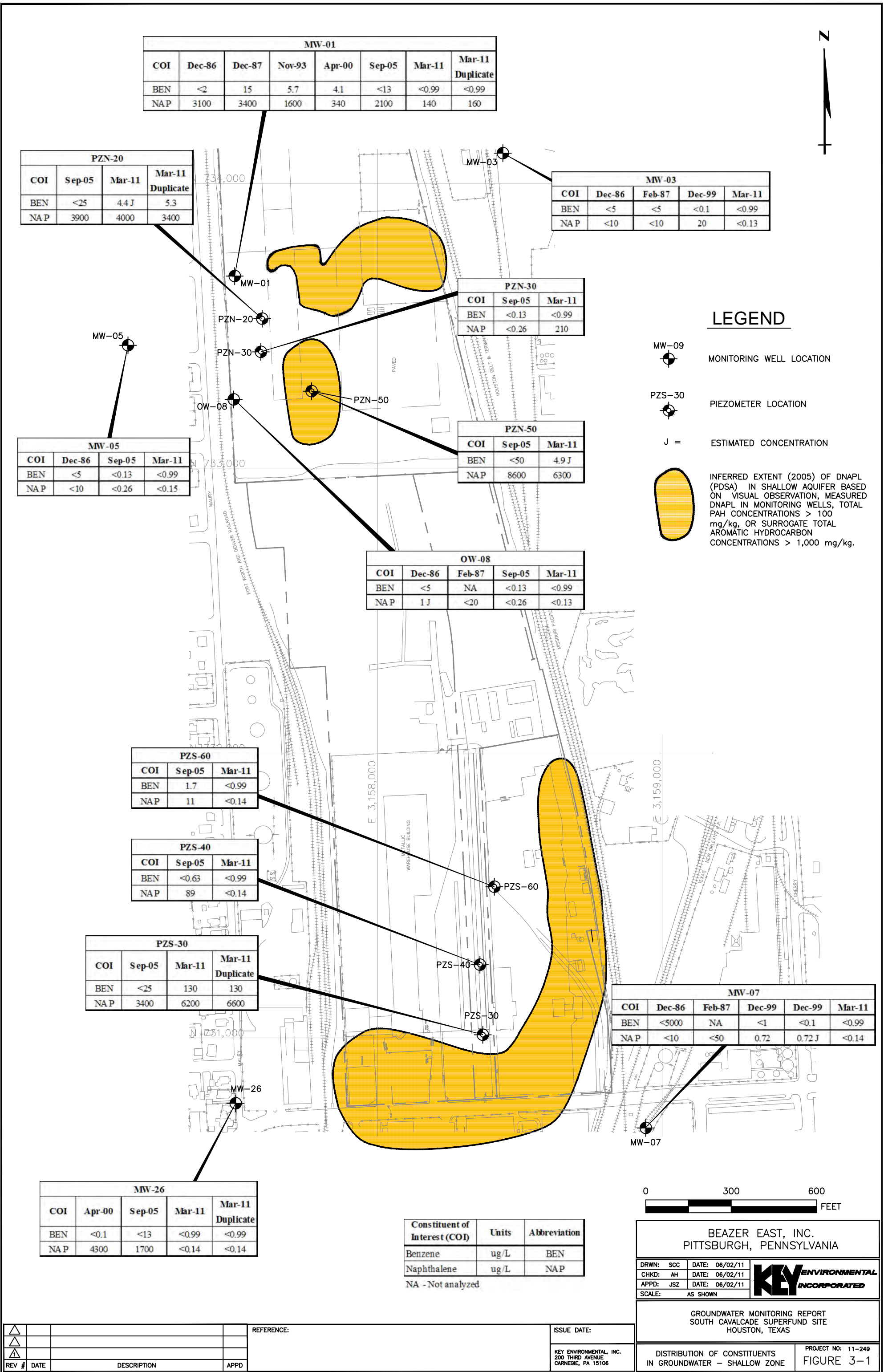
SITE LOCATION MAP

PROJECT NO: 09-943
FIGURE 1-1

Y:\south cavalcade\11-249 groundwater summary report\Figure 1-2.dwg Last Saved By: Scamer 6/6/2012 2:52 PM Plotted By: Shelly Comer 6/6/2012 3:19 PM Scale: 1:1



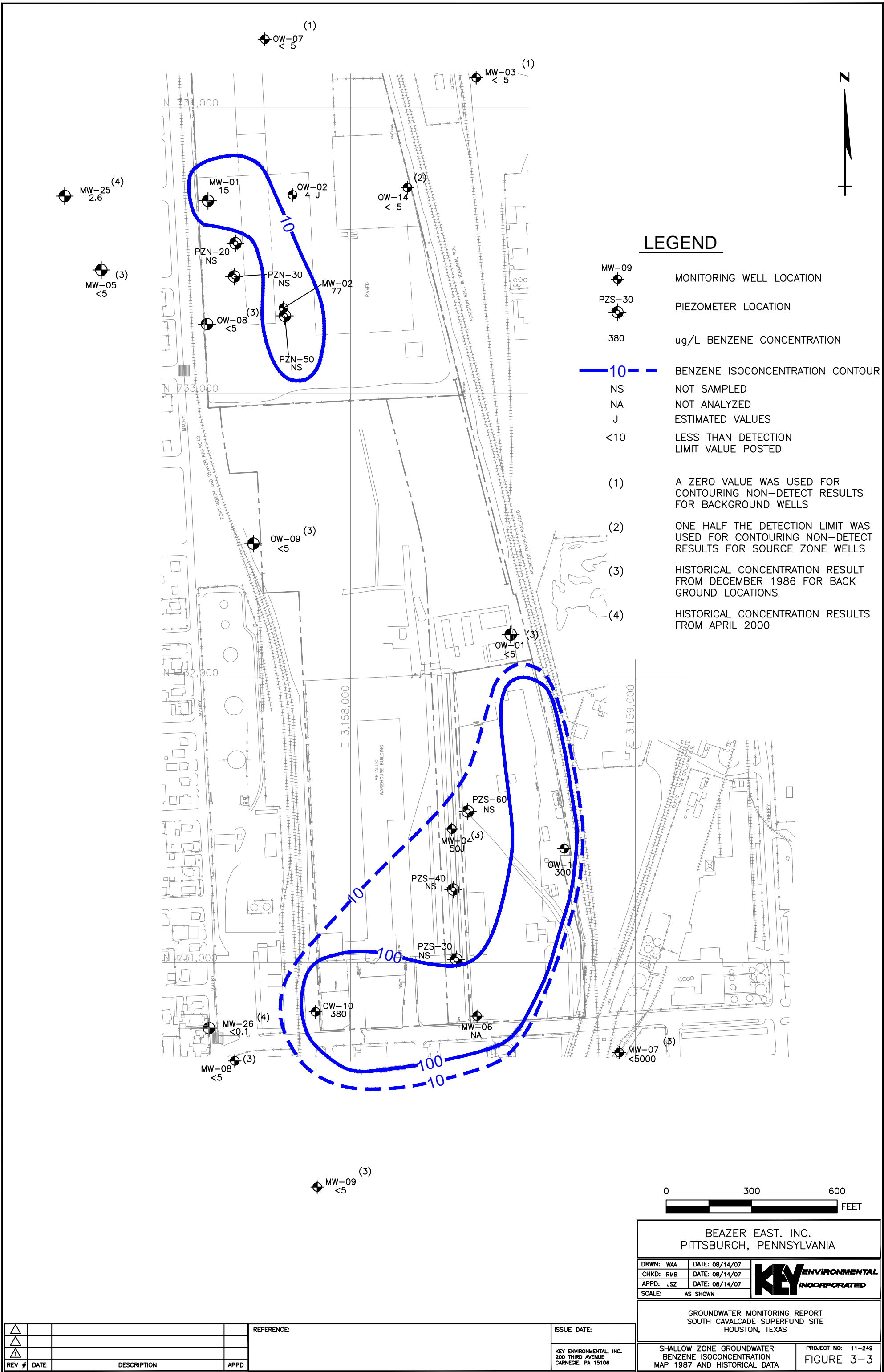
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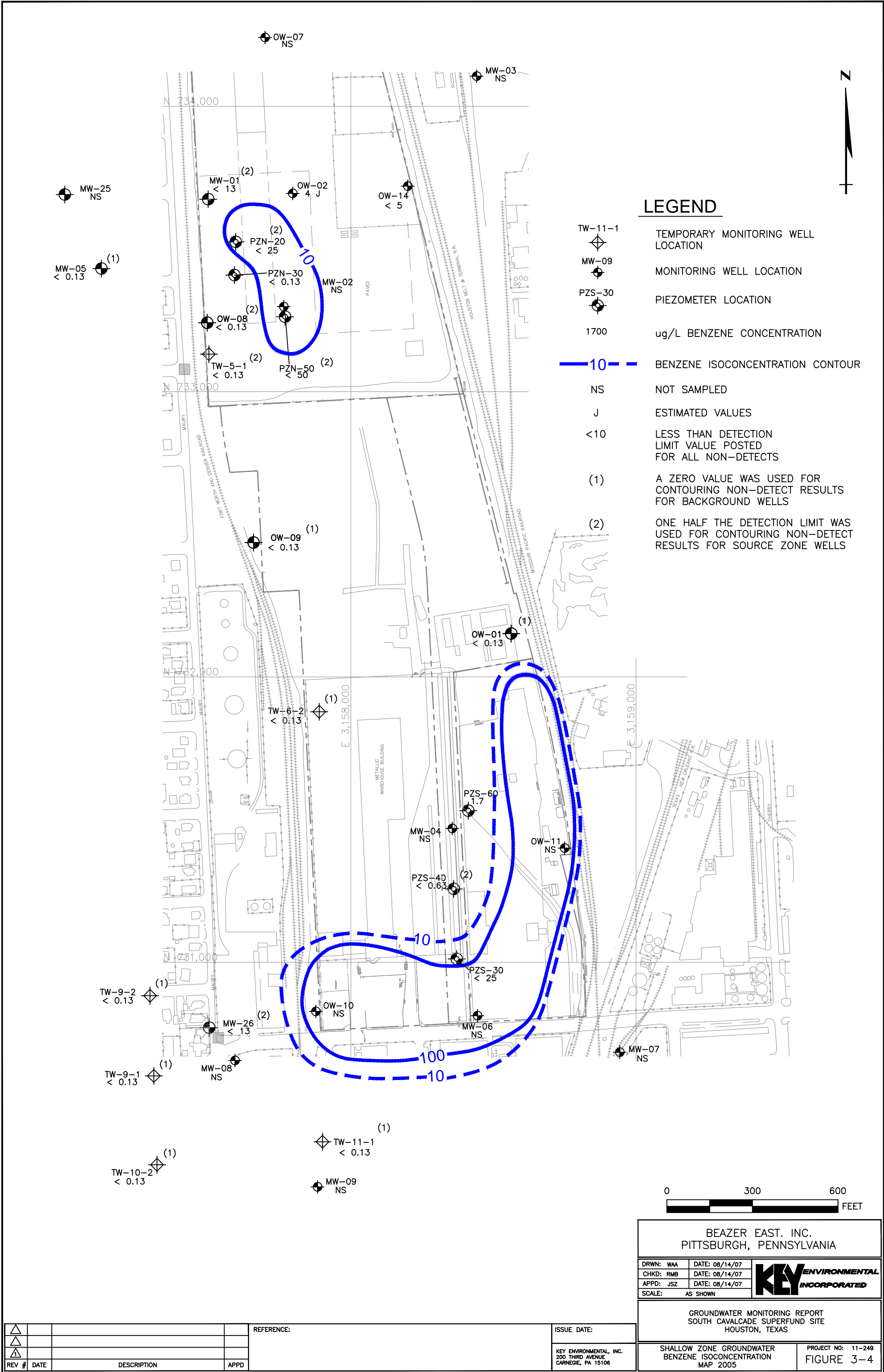
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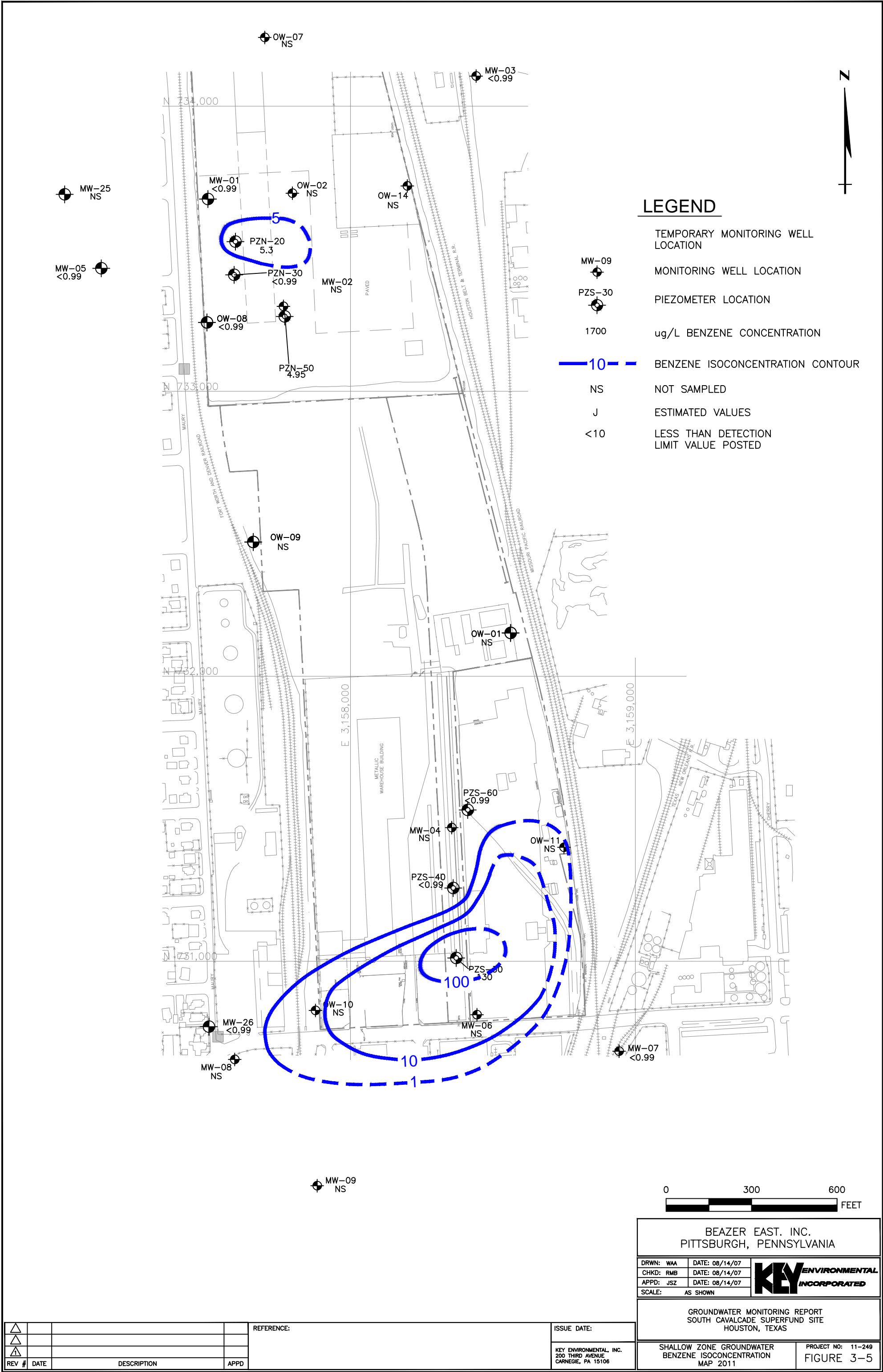
Y:\south cavalcade\11-249 groundwater summary report\Figure 3-3.dwg Last Saved By: Scomer 6/6/2012 6:44 AM Plotted By: Shelly Comer 6/6/2012 6:44 AM Scale: 1:1



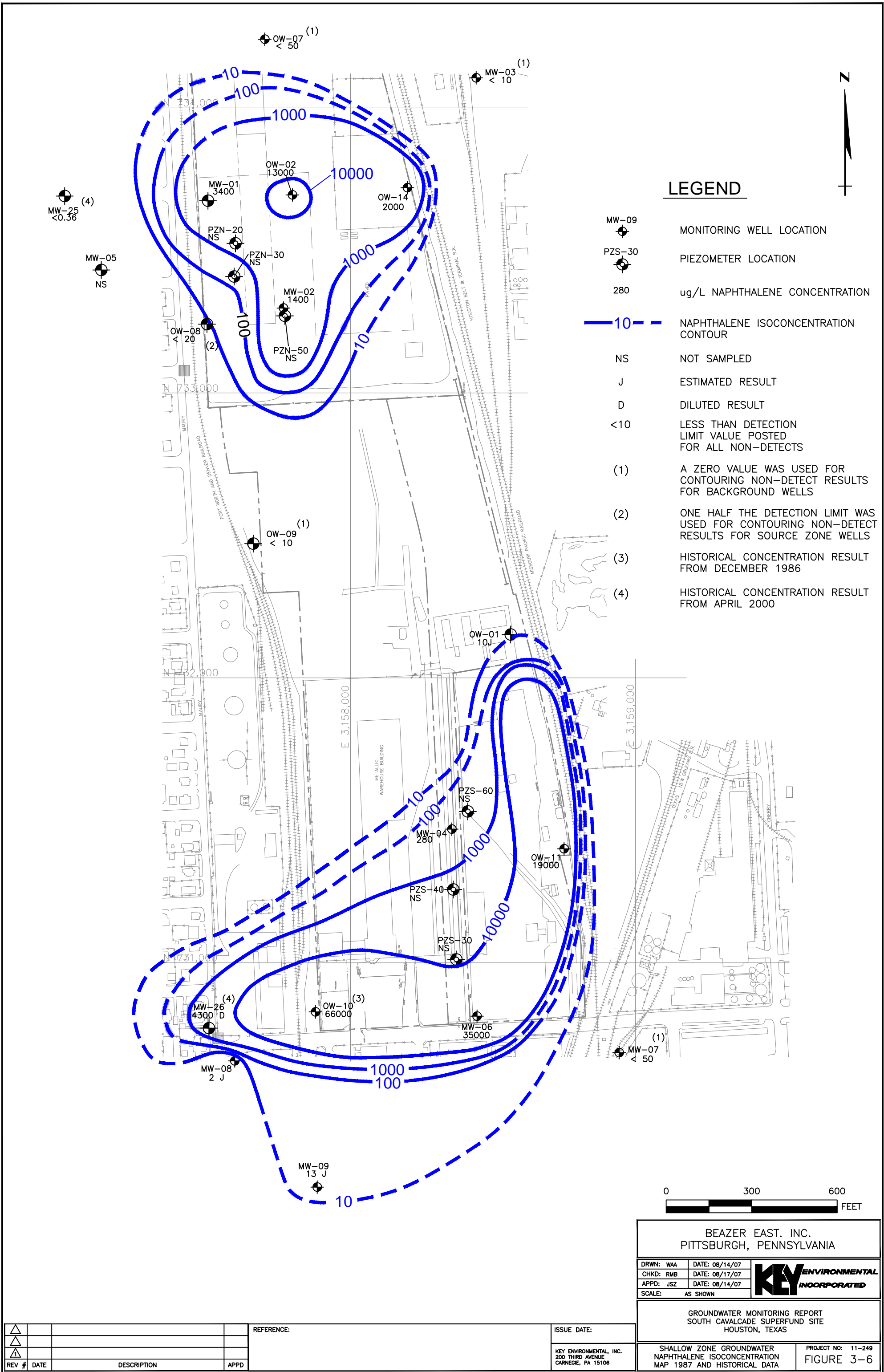
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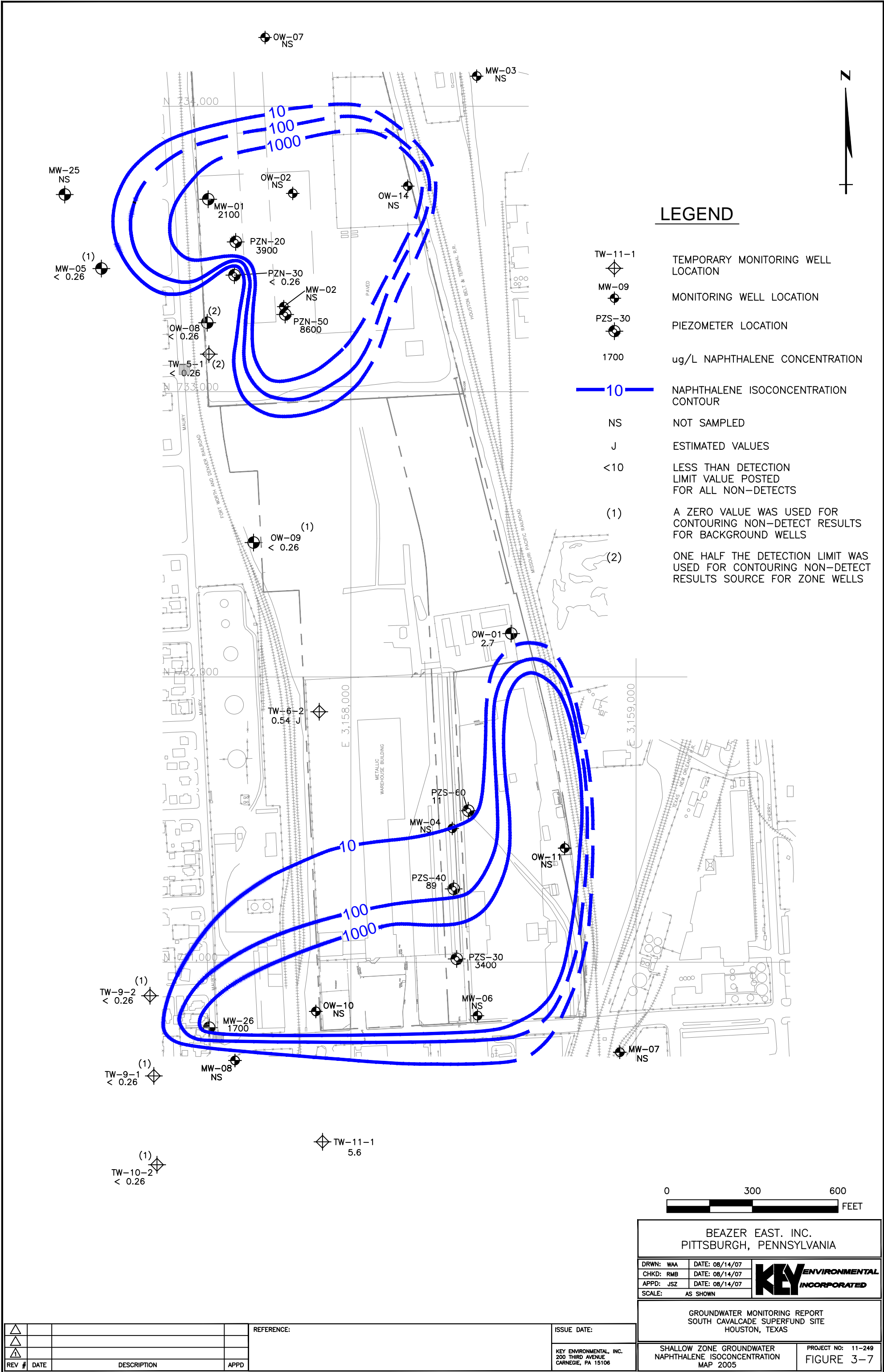
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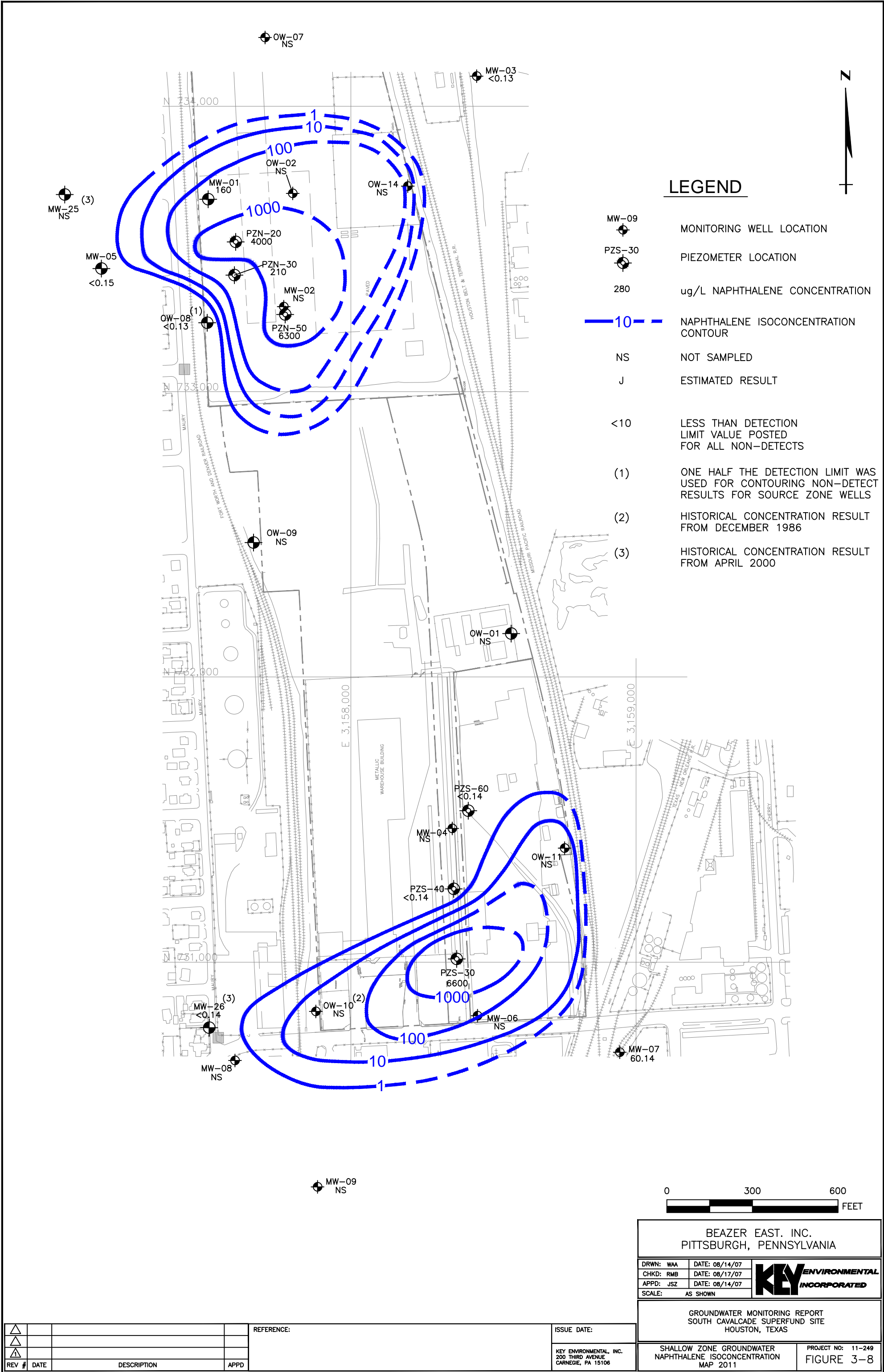
Y:\south cavalcade\11-249 groundwater summary report\Figure 3-6.dwg Last Saved By: Scomer 6/6/2012 7:35 AM Plotted By: Shelly Comer 6/6/2012 7:36 AM Scale: 1:1

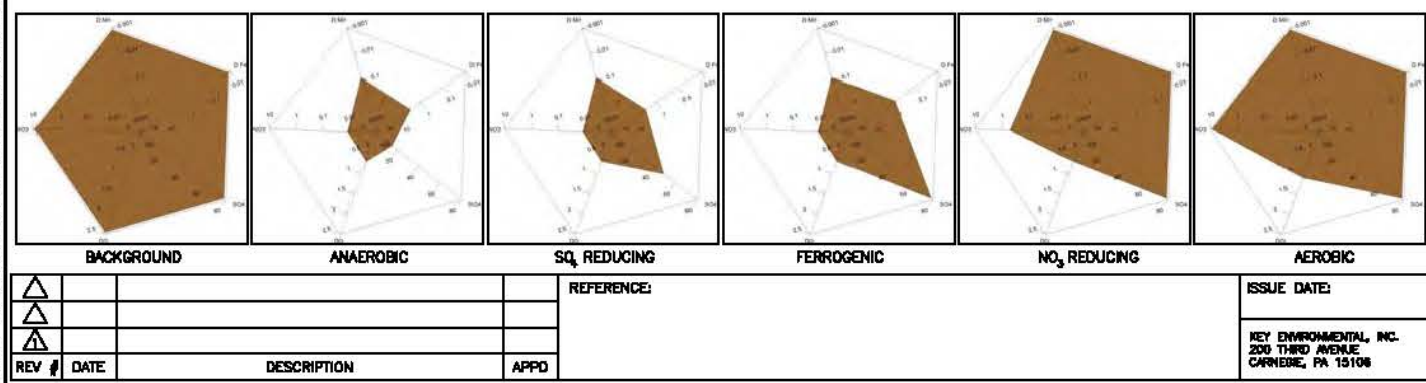
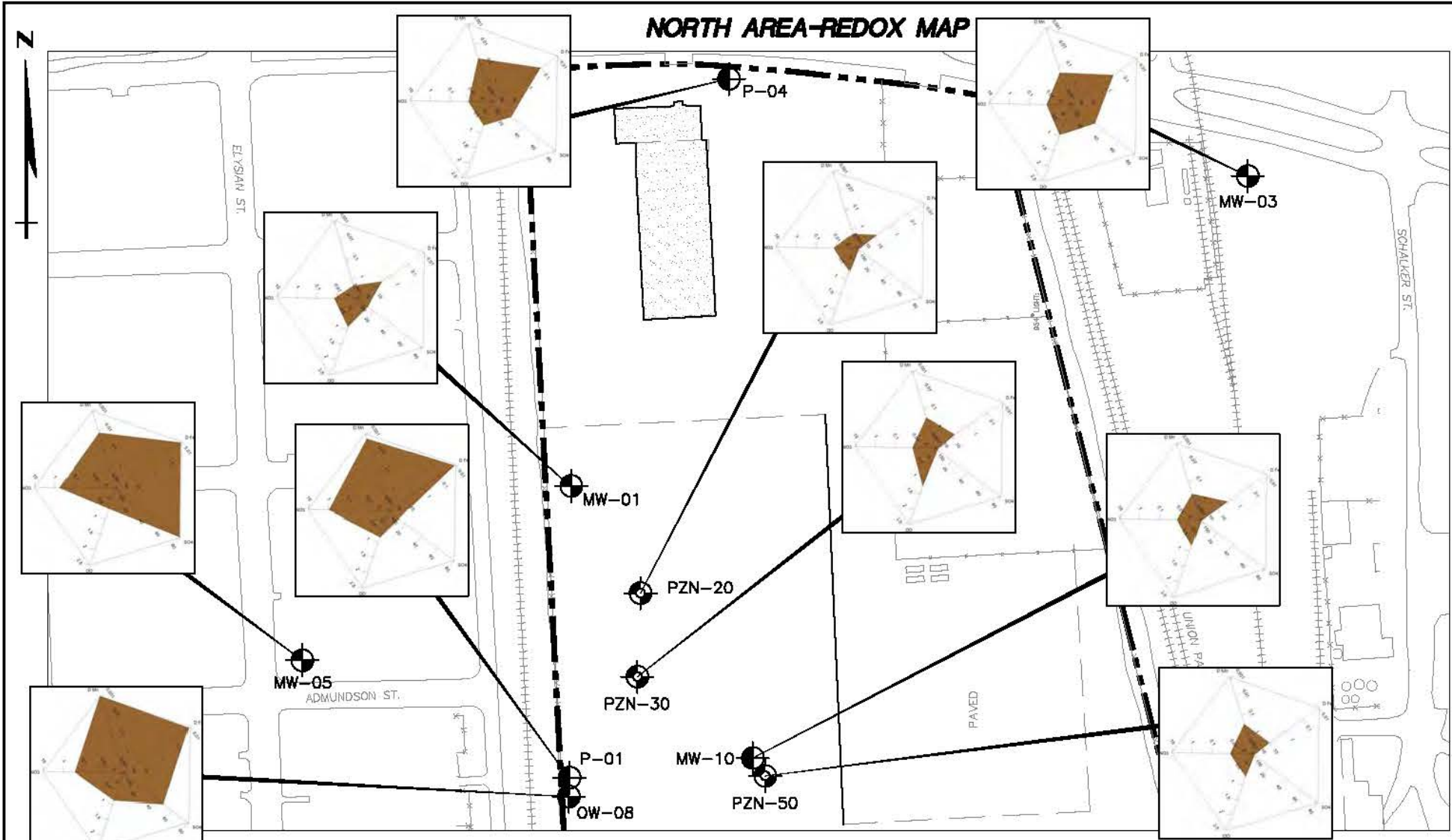


Y:\south cavalcade\11-249 groundwater summary report\figure 3-7.dwg Last Saved By: Scomer 6/6/2012 7:35 AM Plotted By: Shelly Comer 6/6/2012 8:01 AM Scale: 1:1



Y:\south cavalcade\11-249 groundwater summary report\figure 3-8.dwg Last Saved By: Scomer 11/9/2011 6:57 AM Plotted By: Shelly Comer 6/6/2012 8:26 AM Scale: 1:1





0 200 400
FEET

BEAZER EAST, INC.
PITTSBURGH, PENNSYLVANIA

DRWN: SCC	DATE: 06/02/11
CHKD: AH	DATE: 06/02/11
APPD: JSZ	DATE: 06/02/11
SCALE: AS SHOWN	

KEY ENVIRONMENTAL INCORPORATED

GROUNDWATER SUMMARY REPORT
SOUTH CAVALCADE SUPERFUND SITE
HOUSTON, TEXAS

NATURAL ATTENUATION INDICATOR PARAMETER DATA	FIGURE 3-9
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y:\south_cavalcade\11-248 groundwater summary report\figure 3-9.dwg Last Saved By: Scorer 6/6/2012 3:18 PM Plotted By: Shelly Corner 6/6/2012 3:21 PM Scale: 1:1